

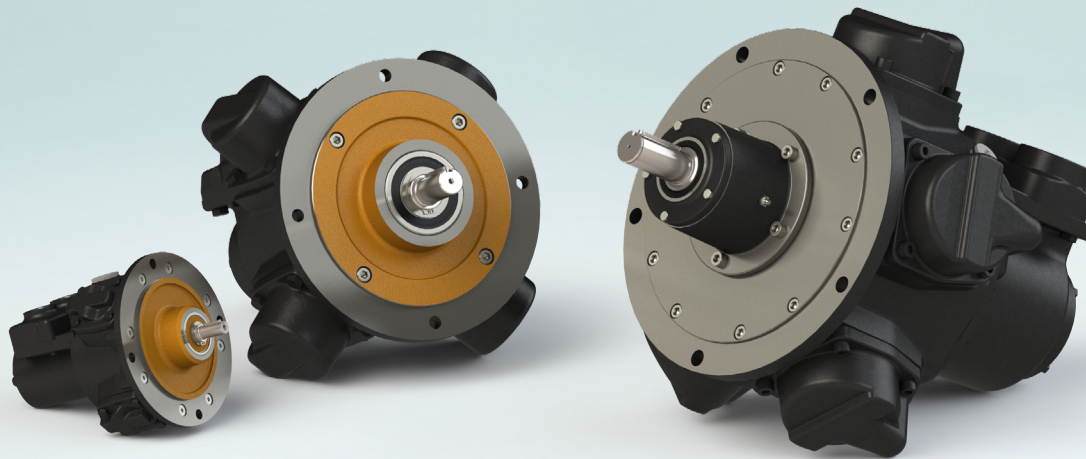


**GLOBE<sup>®</sup>** AIRMOTORS B.V.

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## Specifications: RM510

Piston Air Motor



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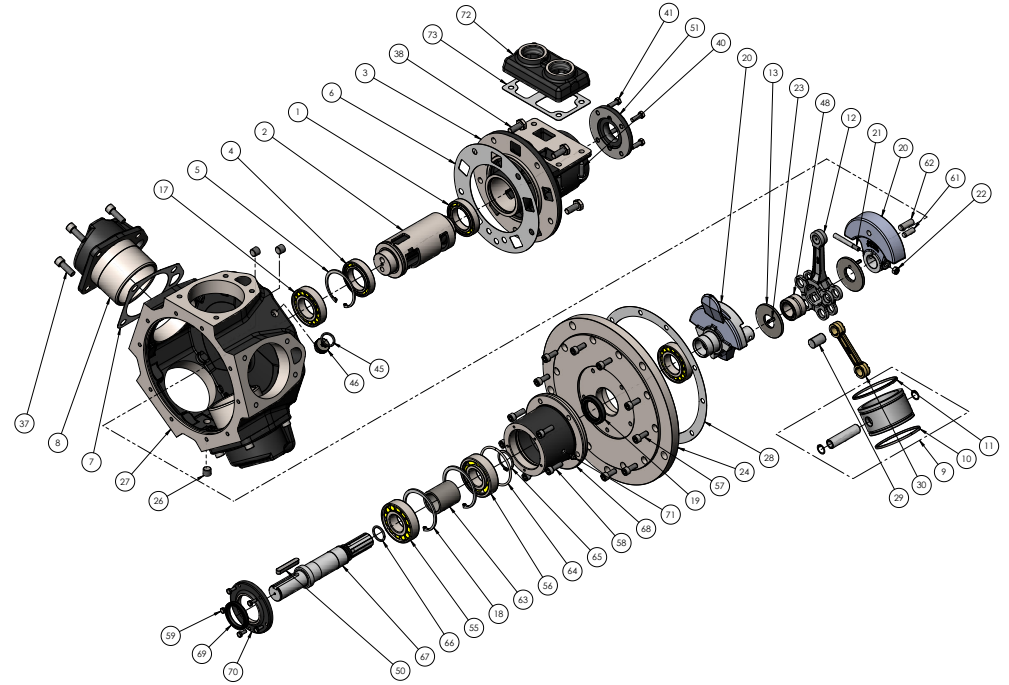
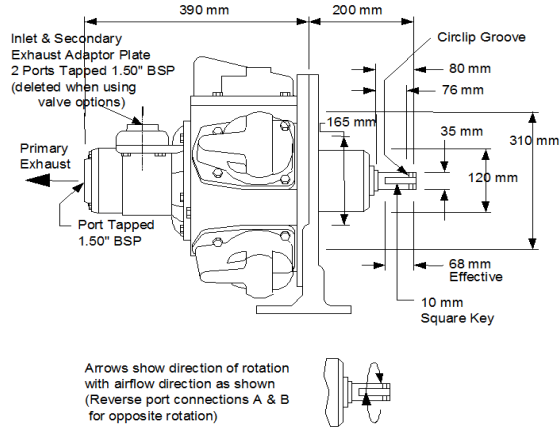
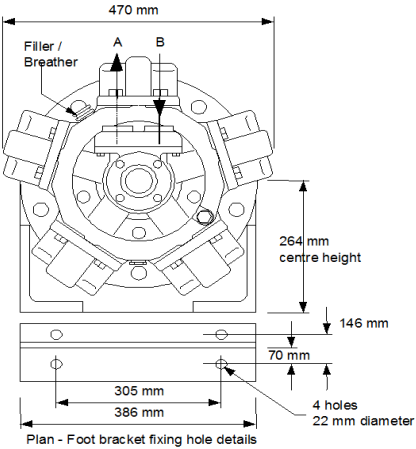
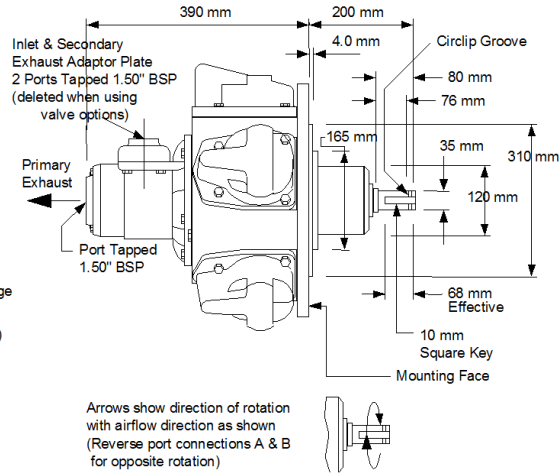
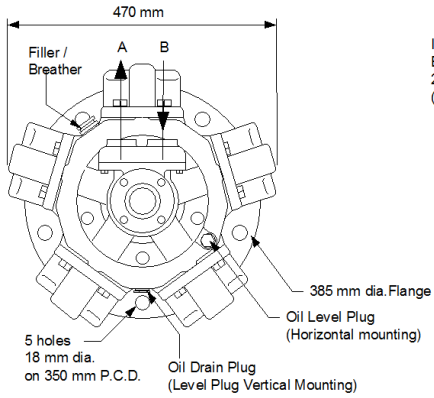
**LRQA**  
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# Dimensions RM510 & RM510 + Foot Bracket

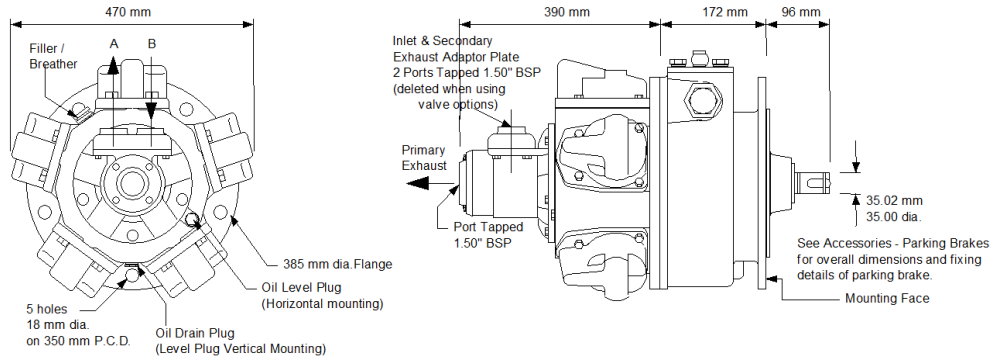
# Spare Parts List RM510



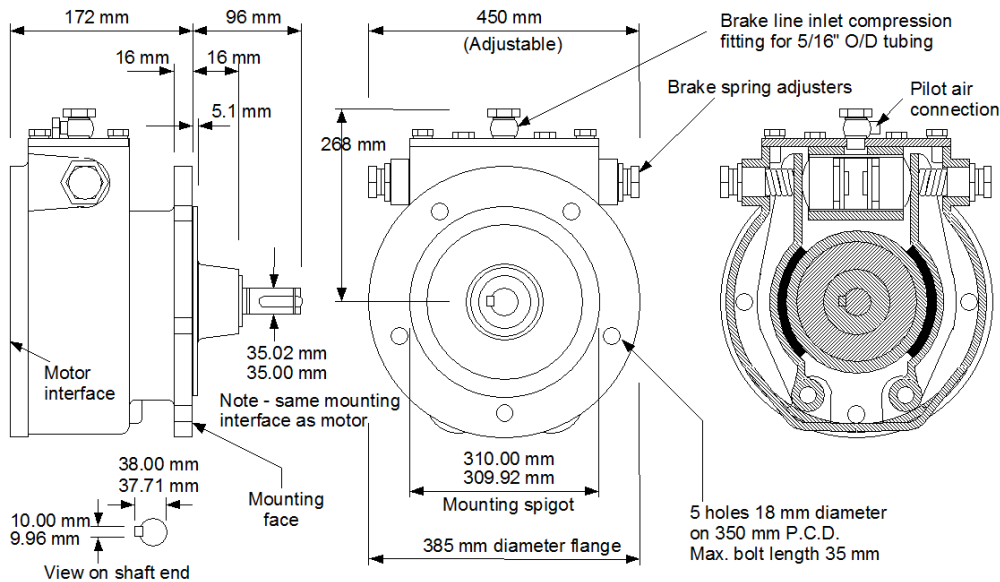
| Item | Part No. | Description                  | Qty | Kit No. | Item | Part No. | Description                    | Qty | Kit No. |
|------|----------|------------------------------|-----|---------|------|----------|--------------------------------|-----|---------|
| 01   | 807-006  | Rotary Valve Bearing (Outer) | 1   |         | 45   | 808-004  | Seal (transit only)            | 1   |         |
| 02   | 520-006  | Rotary Valve                 | 1   |         | 46   | 130-066  | Breather Plug                  | 1   |         |
| 03   | 520-011  | Rotary Valve Housing         | 1   |         | 48   | 807-047  | Needle Bearing                 | 1   |         |
| 04   | 807-005  | Rotary Valve Bearing (Inner) | 1   |         | 50   | 811-030  | Key                            | 1   |         |
| 05   | 804-066  | Rotary Valve Bearing Circlip | 1   |         | 51A  | 520-005  | Rotary Valve Exhaust Cover BSP | 1   |         |
| 06   | 510-001  | Rotary Valve Housing Gasket  | 1*  | 529-911 | 51A  | 520-105  | Rotary Valve Exhaust Cover NPT | 1   |         |
| 07   | 510-030  | Cylinder Gasket              | 5*  | 529-911 | 55   | 807-063  | Output Shaft Bearing (Outer)   | 1   |         |
| 08   | 510-082  | Cylinder                     | 5   |         | 56   | 807-012  | Output Shaft Bearing (Inner)   | 1   |         |
| 09   | 520-902A | Piston Assembly              | 5   |         | 57   | 809-001  | Flange Plate Cap Screws        | 10  |         |
| 10   | 520-024  | Compression Ring             | 5*  | 529-911 | 58   | 809-002  | Output Housing Bolts           | 5   |         |
| 11   | 520-022  | Oil Control Ring             | 5*  | 529-911 | 59   | 802-016  | Output Housing Cover Bolts     | 5   |         |
| 12   | 530-077  | King Rod                     | 1   |         | 61   | 806-001  | Drive Pin (Dia. 10mm)          | 1   |         |
| 13   | 520-052  | Crankshaft Spacer            | 2   |         | 62   | 806-002  | Drive Pin (Dia. 12mm)          | 1   |         |
| 17   | 807-062  | Crankshaft Bearing           | 2   |         | 63   | 518-001  | Output Shaft Bearing Spacer    | 1   |         |
| 18   | 804-068  | Crankshaft Bearing Circlip   | 2   |         | 64   | 518-004  | Output Shaft Spring Ring       | 1   |         |
| 19   | 808-047  | Crankshaft Oilseal           | 1*  | 529-911 | 65   | 804-017  | Output Shaft Circlip           | 1   |         |
| 20A  | 520-901  | Std. Crankshaft Assembly     | 1   |         | 66   | 804-002  | Output Shaft Seal              | 1*  | 529-911 |
| 20B  | 520-904  | SAE Crankshaft Assembly      | 1   |         | 67   | 518-003  | Output Housing Cover Bolt      | 1   |         |
| 21   | 510-088  | Crank Bolt                   | 1   |         | 68   | 518-005  | Output Shaft Housing           | 1   |         |
| 22   | 801-009  | Crank Nut                    | 1   |         | 69   | 808-042  | Output Shaft Oil Seal          | 1*  |         |
| 23   | 806-013  | Spring Dowel                 | 2   |         | 70   | 518-002  | Output Shaft Housing Cover     | 1   |         |
| 24A  | 520-076  | Std. Flange Plate            | 1   |         | 71   | 816-015  | Output Shaft Grease Nipple     | 1   |         |
| 24B  | 520-113  | SAE Flange Plate             | 1   |         | 72A  | 520-003  | Inlet Adaptor Plate BSP        | 1   |         |
| 26   | 816-071  | Plug                         | 1   |         | 72B  | 520-103  | Inlet Adaptor Plate NPT        | 1   |         |
| 27   | 520-012  | Engine Case                  | 1   |         | 73   | 430-004  | Inlet Adaptor Plate Gasket     | 1*  | 529-911 |
| 28   | 510-090  | Engine Case Gasket (520)     | 1*  | 529-911 |      | 529-911  | RM510 Seal Kit                 | 1   |         |
| 29   | 520-081  | Queen Rod Pivot              | 4   |         |      |          |                                |     |         |
| 30   | 520-078  | Queen Rod                    | 4   |         |      |          |                                |     |         |
| 37   | 802-074  | Cylinder Bolts               | 20  |         |      |          |                                |     |         |
| 38   | 802-073  | Valve Housing Bolts          | 4   |         |      |          |                                |     |         |
| 39   | 803-015  | Washer for Item #38          | 4   |         |      |          |                                |     |         |
| 40   | 802-054  | Adaptor Plate Bolt           | 4   |         |      |          |                                |     |         |
| 41   | 802-033  | Exhaust Cover Bolts          | 4   |         |      |          |                                |     |         |
| 42   | 815-008  | Flange Plate Plugs           | 5   |         |      |          |                                |     |         |

If unit is pre 1990 supplied, consult manufacturer to confirm design.

# Dimensions & Performance RM510 + Brake

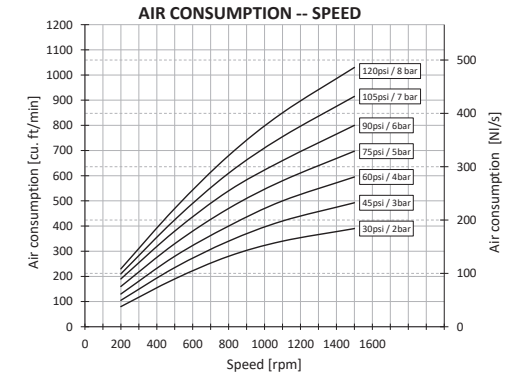
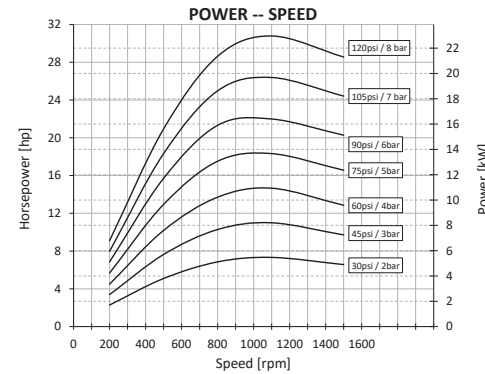
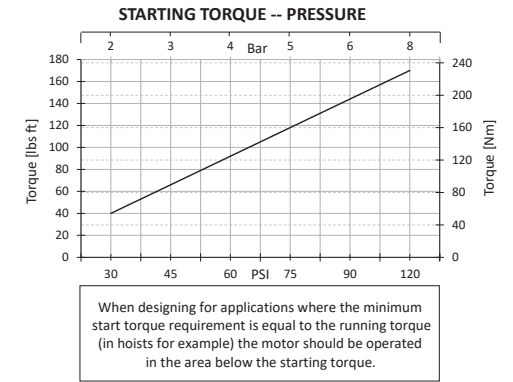
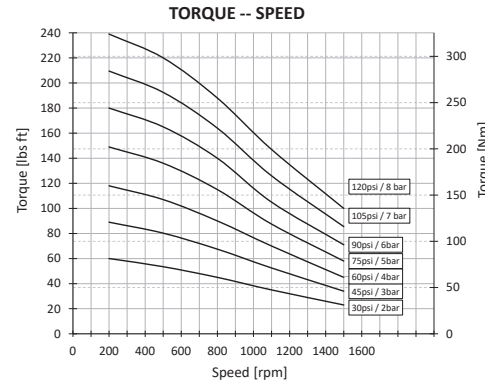


Arrows show direction of rotation with airflow direction as shown (Reverse port connections A & B for opposite rotation)



**Gearbox ratio: None**

**Maximum speed: 1500 RPM**  
**No Control Valve fitted**



## LUBRICATING OIL CAPACITIES

Horizontal 1,1 litres    Vertical 2,1 litres  
Use a good quality hydraulic oil with a viscosity of around 100cSt (460SSU) at 40°C (104°F)

## AIRLINE FILTRATION AND LUBRICATION

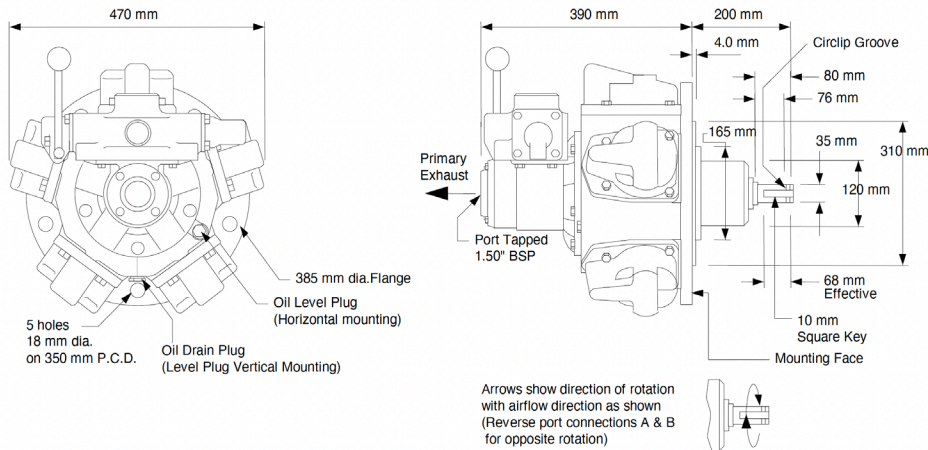
Use 64 micron filtration or better. Choose a lubricator suitable for the flow required. Prior to initial start-up, inject oil into the inlet port.

## GENERAL DATA

MASS (motor only) 115 kgs (254 lbs)  
MOMENT OF INERTIA of rotating parts 14 gm<sup>2</sup> (motor only)  
MAX OVERHUNG FORCE on motor shaft 6500 N (1460 lbf)  
TEMPERATURE RANGE -20°C to +60°C (-4°F to +140°F) / -10°C to +60°C (-14°F to +140°F) with brake

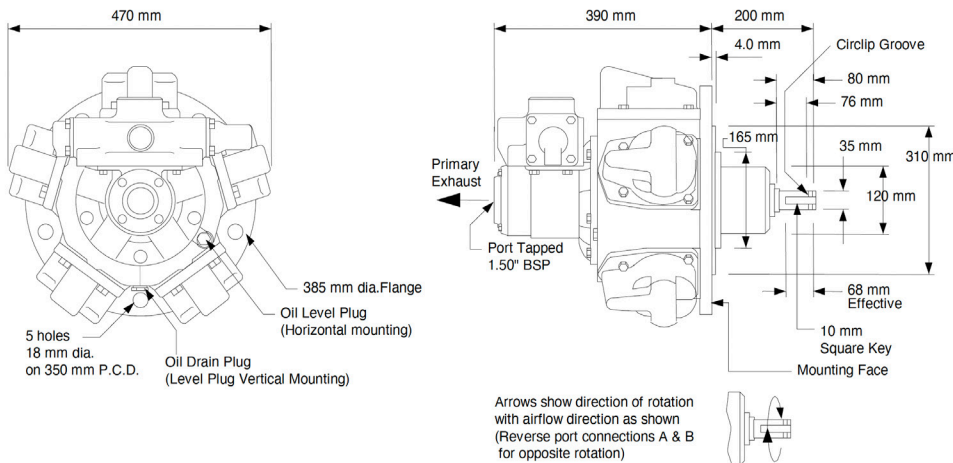
Lubricator drop rate 6-8 drops/minute continuous operation  
Lubricator drop rate 12-16 drops/minute intermittent operation

## Dimensions & Performance RM510 + HCV



Arrows show direction of rotation with airflow direction as shown (Reverse port connections A & B for opposite rotation)

## Dimensions & Performance RM510 + RCV



Arrows show direction of rotation with airflow direction as shown (Reverse port connections A & B for opposite rotation)

## Operational principle RM510 Control Valve Options

This range of bolt on valves offers very sensitive speed and directional control. One frictional matched spool and sleeve assembly is offered with two alternative means of actuation.

### Configuration

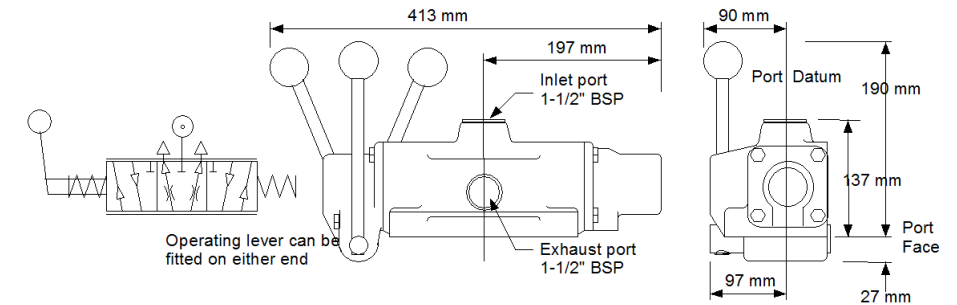
As standard these valves can be supplied with either **EQUAL POWER OR BIASED POWER** spools, the latter is suitable for hoisting applications (normal power for lifting - reduced power for lowering). The direction of reduced power must be stated when ordering **CW** or **CCW**, when viewed on the output shaft of the motor.

**Hand Controlled (HCV)** - The control valve spool is operated directly by a lever mechanism. Speed increase is obtained as the lever is moved in either direction from the centre (neutral) position.

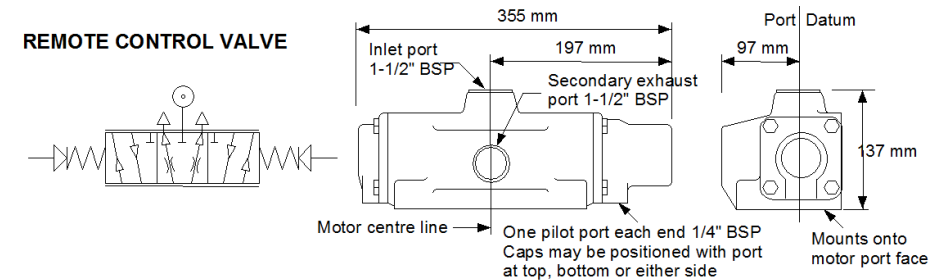
**Remotely Controlled (RCV)** - This option is usually controlled from a remote position by one of the PC series or LC2 remote controllers. A variable air pilot signal is applied to either end of the valve spool, depending on the required direction of motor rotation. The pilot pressure range is between 1.4 bar (20 psi) and 4.8 bar (70 psi), increased pilot pressure gives increased speed. The valve is spring centred to neutral.

**Pressure Drop** - Minimal pressure drop will be experienced through the valves, having the effect of maintaining the output torque whilst reducing the motor output speed by approximately 10-15% at 6 bar (90 psi) at maximum power. The starting torque remains unaffected.

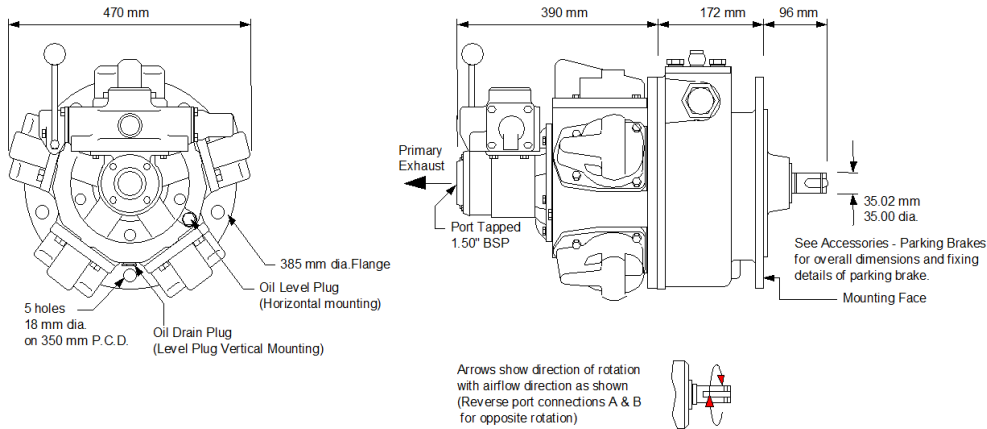
### HAND CONTROL VALVE



### REMOTE CONTROL VALVE

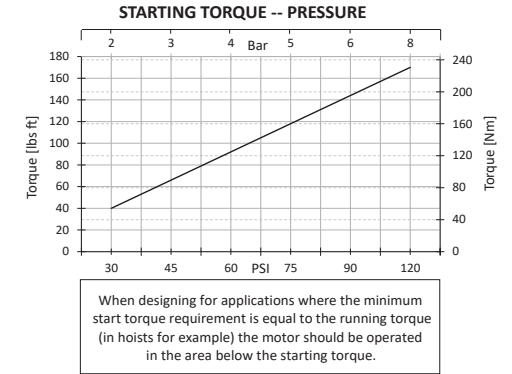
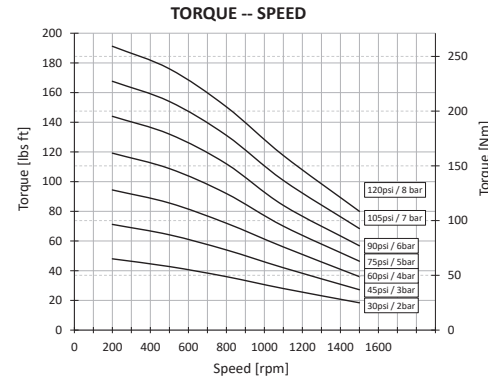


## Dimensions & Performance RM510 + Brake + HCV

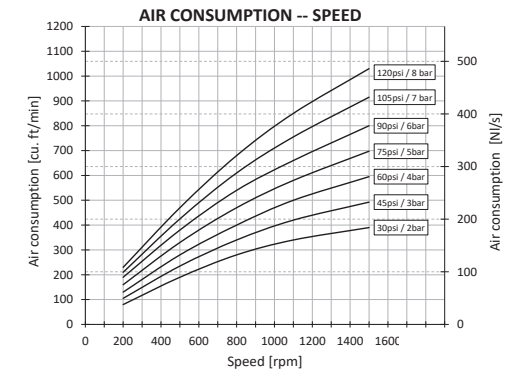
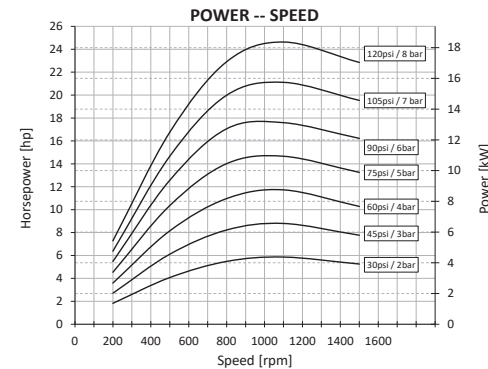
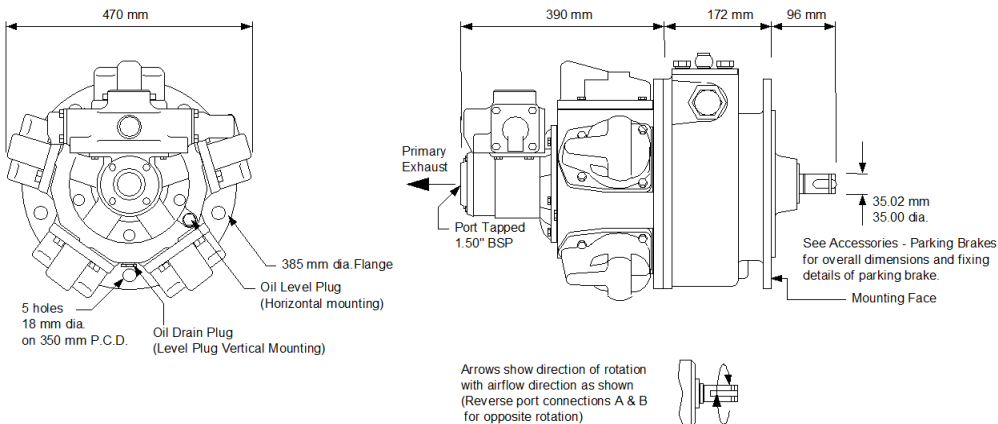


Gearbox ratio: None

Maximum speed: 1350 RPM  
Control Valve Fitted



## Dimensions & Performance RM510 + Brake + RCV



### LUBRICATING OIL CAPACITIES

Horizontal 1,1 litres    Vertical 2,1 litres

Use a good quality hydraulic oil with a viscosity of around 100cSt (460SSU) at 40°C (104°F)

### AIRLINE FILTRATION AND LUBRICATION

Use 64 micron filtration or better. Choose a lubricator suitable for the flow required. Prior to initial start-up, inject oil into the inlet port.

### GENERAL DATA

MASS (motor only) 115 kgs (254 lbs)

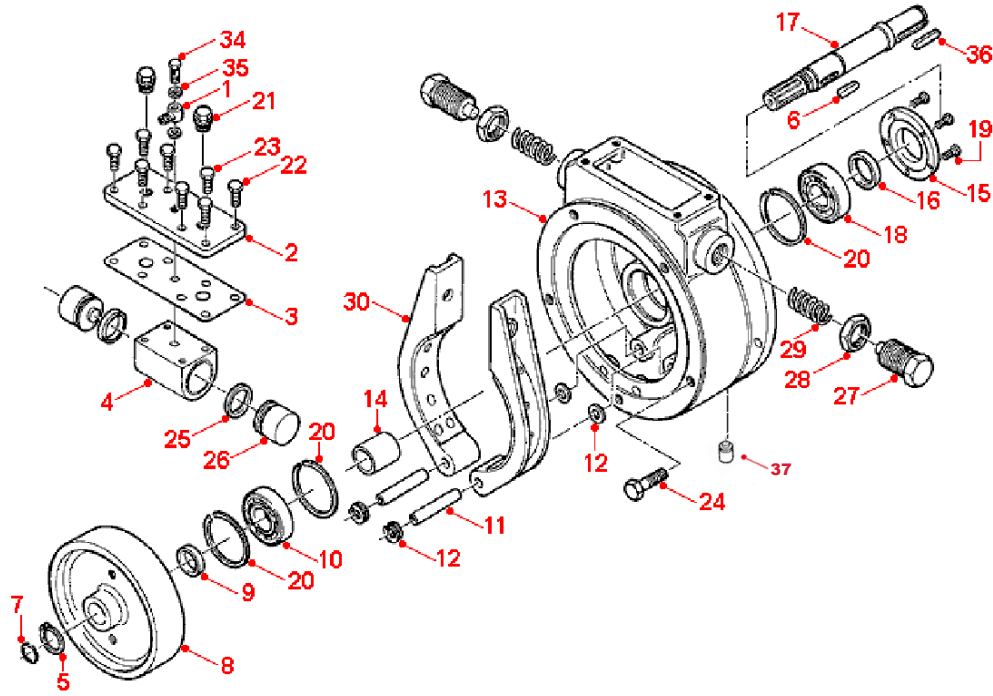
MOMENT OF INERTIA of rotating parts 14 gm<sup>2</sup> (motor only)

MAX OVERHUNG FORCE on motor shaft 6500 N (1460 lbf)

TEMPERATURE RANGE -20°C to +60°C (-4°F to +140°F) / -10°C to +60°C (-14°F to +140°F) with brake

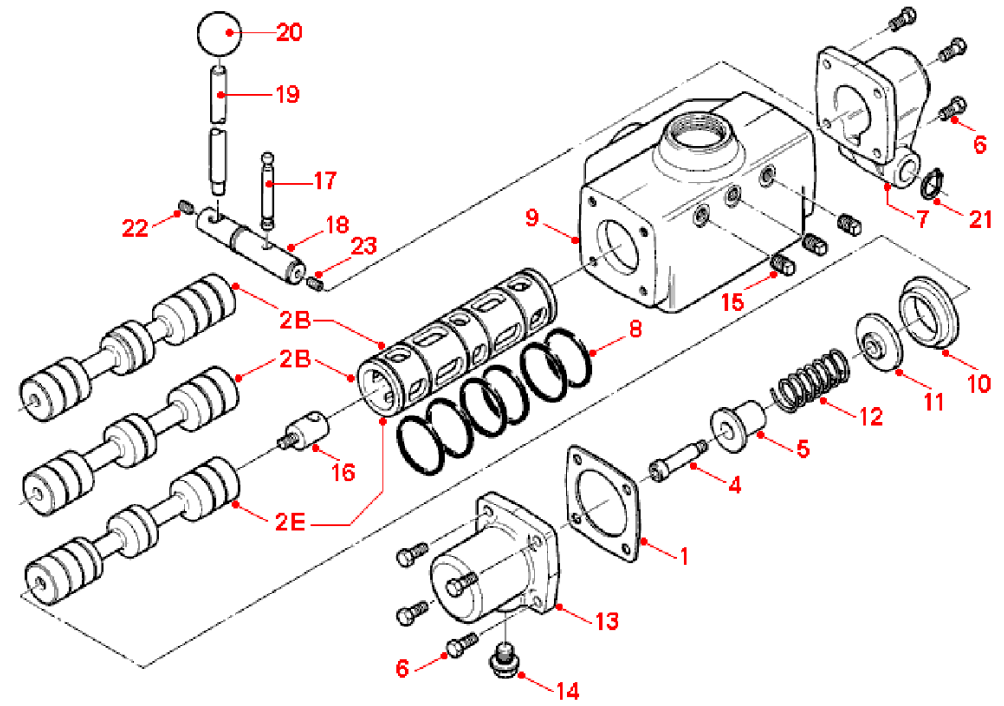
Lubricator drop rate 6-8 drops/minute continuous operation  
Lubricator drop rate 12-16 drops/minute intermittent operation

## Spare Parts List Parking Brake



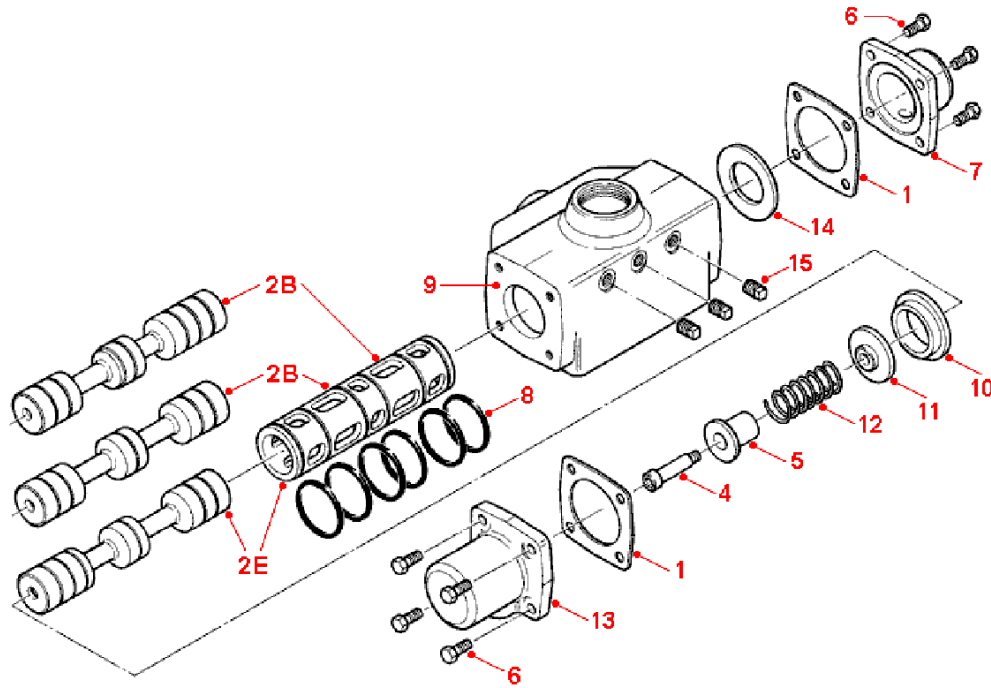
| Item | Part No. | Description                        | Qty |
|------|----------|------------------------------------|-----|
| 1    | 816-005  | Banjo Body C/W Nut & Pin 5/16"     | 1   |
| 2    | 512-013  | Plunger Plate                      | 1   |
| 3    | 512-030  | Gasket Plunger Block               | 1   |
| 4    | 512-021  | Plunger Block                      | 1   |
| 5    | 804-017  | Circlip 40mm External              | 2   |
| 6    | 811-006  | Key K130                           | 1   |
| 7    | 808-002  | O-Ring - 1/8" x 1-3/8"             | 1   |
| 8    | 512-001  | Brake Wheel                        | 1   |
| 9    | 512-036  | Wheel Spacer                       | 1   |
| 10   | 807-013  | Bearing 6308 2RS                   | 1   |
| 11   | 412-003  | Pin                                | 2   |
| 12   | 803-003  | Washer M16                         | 2   |
| 13   | 512-008  | Brake Housing                      | 1   |
| 14   | 518-001  | Output Bearing Spacer              | 1   |
| 15   | 518-002  | Output Bearing Housing Cap         | 1   |
| 16   | 808-042  | Oilseal 48 x 62 x 8/R4             | 1   |
| 17   | 512-005  | Brake Shaft                        | 1   |
| 18   | 807-063  | Roller Bearing                     | 1   |
| 19   | 802-016  | Hex Head Screw M6 x 16             | 5   |
| 20   | 804-068  | Circlip 90mm External              | 3   |
| 21   | 816-265  | Screw Plugs (Blueamay)             | 2   |
| 22   | 802-053  | Set Screw M10 x 25                 | 4   |
| 23   | 802-052  | Set Screw M10 x 20                 | 4   |
| 24   | 802-094  | Bolt M6 x 40 Hex Head              | 5   |
| 25   | 808-071  | U Packing U132                     | 2   |
| 26   | 512-011  | Plunger                            | 2   |
| 27   | 512-009  | Adjuster Screw                     | 2   |
| 28   | 512-024  | Locknut                            | 2   |
| 29   | 814-011  | Spring MSD15                       | 2   |
| 30   | 512-901  | Brake Shoe Assembly                | 2   |
| 34   | 816-006  | Banjo Bolt 1/4" BSP                | 1   |
| 35   | 808-090  | Bonded Seal 1/4" BSP Dowty         | 2   |
| 36   | 811-030  | Key 10 x 8 x 63                    | 1   |
| 37   | 7008G18  | Breather plug 1/8 BSPP (ATEX only) | 1   |

## Spare Parts List Hand Control Valve



| Item | Part No. | Description               | Qty           |
|------|----------|---------------------------|---------------|
| 01   | 521-066  | End Cap Gasket            | 1             |
| 02E  | 521-913  | Matched Spool and Sleeve  | 1 (Equipower) |
| 02B  | 521-914  | Matched Spool and Sleeve  | 1 (Biased)    |
| 4    | 817-002  | Shoulder Screw 10 mm      | 1             |
| 5    | 521-071  | Centering Shaft Guide     | 1             |
| 6    | 802-033  | Set Screw M8 x 25         | 8             |
| 7    | 523-041  | Lever Cap                 | 1             |
| 8    | 808-013  | O Ring 2" x 1/8"          | 6             |
| 9    | 521-060  | Valve Body                | 1             |
| 10   | 521-068  | Valve Sleeve Spacer       | 1             |
| 11   | 521-072  | Washer, Spring Centering  | 1             |
| 12   | 814-020  | Spring Flexo #03824       | 1             |
| 13   | 521-064  | End Cap - Spring End      | 1             |
| 14   | 113-050  | Vent Plug                 | 1             |
| 15   | 816-061  | Plug 1/4" BSPT Sq. Head   | 3             |
| 16   | 523-024  | Toggle Shaft              | 1             |
| 17   | 523-026  | Toggle Pin                | 1             |
| 18   | 523-008  | Hand Lever Pivot          | 1             |
| 19   | 313-002  | Hand Lever                | 1             |
| 20   | 818-002  | Black Plastic Knob 1-1/2" | 1             |
| 21   | 804-013  | Circlip 20mm External     | 2             |
| 22   | 815-010  | Grub Screw M8 x 10        | 1             |
| 23   | 815-002  | Grub Screw M8 x 16        | 1             |

## Spare Parts List Remote Control Valve



| Item | Part No. | Description              | Qty |
|------|----------|--------------------------|-----|
| 01   | 521-066  | End Cap Gasket           | 2   |
| 02E  | 521-913  | Matched Spool and Sleeve | 1   |
| 02B  | 521-914  | Matched Spool and Sleeve | 1   |
| 4    | 817-002  | Shoulder Screw 10 mm     | 1   |
| 5    | 521-071  | Centering Shaft Guide    | 1   |
| 6    | 802-033  | Hex Head Screw M8 x 25   | 8   |
| 7    | 521-065  | End Cap - Plain End      | 1   |
| 8    | 808-013  | O Ring 2"x2-1/8"         | 6   |
| 9    | 521-060  | Valve Body               | 1   |
| 10   | 521-068  | Valve Sleeve Spacer      | 1   |
| 11   | 521-072  | Washer, Spring Centering | 1   |
| 12   | 814-019  | Spring, Control Spool    | 1   |
| 13   | 521-064  | End Cap - Spring End     | 1   |
| 14   | 521-033  | End Cap Washer           | 1   |
| 15   | 816-074  | Plug 1/4" BSPT           | 3   |

## Ordering code

Select easily with the ordering code your version and order it at our sales team. Do you have special wishes? For example ATEX Certified, different mountings, brakes etc. You name it and we make it possible. Contact us for your wishes and we will be happy to engineer a proposal to suit your requirements.

X = Motor Only Maleshaft  
 D = Motor + Brake  
 M = Motor Only Female Shaft  
 N = SAE 'C' Hydraulic Pump Output  
 V = Grease Lubricated for Shaft Upwards Operation

A = Motor with Inlet Plate  
 H = Hand Lever Control Valve  
 R = Remote Controlled Valve  
 X = No Valving or Adaptor Plate

### OUTPUT OPTIONS

R43

X

XX

H

1

0

### NOMINAL GEARBOX RATIO

XX = No Gearbox

### DESIGN CODE

RM 110 (1.7 KW / 2.4 HP) = R14  
 RM 210 (4 KW / 5.5 HP) = R23  
 RM 310 (7.5 KW / 10 HP) = R33  
 RM 410 (14 KW / 19 HP) = R43  
 RM 510 (14 KW / 31 HP) = R52  
 RM 610 (14 KW / 32 HP) = R62

### VALVE OPTIONS

0 = Standard Motor & Ancillaries, for Standard Mounting

### VALVE

0 = BSP  
 1 = NPT  
 2 = Biased: CW Lowering (BSP)  
 3 = Biased: CCW Lowering (BSP)  
 4 = Biased: CW Lowering (NPT)  
 5 = Biased: CCW Lowering (NPT)